Plant Disease in Kansas

VOLUME 33, ISSUE 1

APRIL 3, 2007

Kansas Department of Agriculture
www.KSDA.gov
Adrian Polansky, Secretary
Kathleen Sebelius, Governor

SNOW MOLD IN WESTERN KANSAS WHEAT

Special points of interest:

- *Snow mold in western Kansas wheat*
- *Powdery mildew common to central Kansas wheat*

Snow mold reports have been made in areas of northwestern Kansas (Bob Buhler, KDA). In eleven fields visited, four fields had notable levels of snow mold. Levels were generally trace to five per cent but one field in Wichita County had an estimated 30% infection level. Other reports were made Sherman and Thomas counties.

This area had prolonged snow cover on fields from a winter storm which dumped several feet of snow.

Snow mold is caused by fungi which grow on the surface of unfrozen soil under snow cover for an extended period of time. In Kansas, snow mold is usually not a problem but historically there have been reports about every ten years. The last reports were in the early 1990's in western and central Kansas.

Snow mold in Kansas wheat as seen in the images to the right, is generally the snow mold referred to as pink snow mold. It is caused by the fungus, *Fusarium nivale*.

The Great Plains Diagnostic Clinic at Kansas State University has also received reports from western Kansas but at the time of this report, those counties were not available to include.

For more information regarding this disease go to the following webpage: http://www.plantpath.ksu.edu/DesktopDefault.aspx?tabid=632

Figure 1: Pink snow mold with the dry and necrotic leaves which remain intact, B. Buhler.

Figure 2. Dead plants in a row from pink snow mold, B. Buhler.

Inside this issue:

Powdery mildew common to central Kansas wheat

In survey of central Kansas wheat over the past two weeks, powdery mildew was by far the most prevalent disease (J. Appel, KDA). Survey was conducted in fields in Kingman, Sumner, Reno, McPherson, Rice, Rooks, Marion, Dickinson, Mitchell, Cloud, Osborne and Clay counties. High incidences were not uncommon to fields with 1oo per cent incidence and up to 20% leaf area infected. In visiting variety plots, Jagalene had similar high levels of disease and is common to central Kansas fields. Powdery mildew infection dramatically declined west of Osborne County.

The disease is favored by wet mild cloudy conditions and lush growth. Fall survey indicated that this disease was the most prevalent foliar disease in the newly planted crop at that time.

Pine wilt trees need to be taken out before May 1.

Property owners in the eastern half of Kansas should consider removing dead pine trees before May 1. Scotch and Austrian pines within this area likely have been killed from pine wilt disease.

The disease is caused by a nematode which is transmitted by a pine sawyer beetle. Both the beetle and the nematode are in the wood now and if the tree is removed then the property owner will decrease significantly the chance of infection for 2007.

The current distribution in the state is east of a line from Republic County in the north to the city of Ellsworth in central Kansas and south to the Kingman area.

The beetle will begin to emerge sometime in early May carrying the hitchhiking nematode. The beetle feeds on young pine shoots and the nematode enters the tree through those feeding wounds. Once inside the tree, the nematode reproduces rapidly and destroys the ability of the plant to translocate water. Death of trees generally begin after July and continue with beetle activity into the late fall.

For more information regarding the disease and the Pine Wilt Initiative for the western half of Kansas go to the following web page: http://www.ksda.gov/plant_protection/content/184/cid/1276

Figure 3. Scotch pine with pine wilt disease. The one tree on the left died in the fall from the nematode, J. Appel.

Hosta Virus X survey

The Kansas Department of Agriculture and the Great Plains Diagnostic Clinic at KSU are cooperatively working together to address a viral problem in hostas.

The disease had been common in the trade for the last couple of years. It is known as hosta virus x and is spread generally by the movement of infected plants in the commercial trade. Plant to plant transmission is through sap by dividing existing plants or wounding of tissue with garden or yard tools.

Symptoms include mottling, mosaic, puckering, stunting, leaf distortion, and death of plants.

In inspections and survey last year, one in about every four locations offering plants for sale had infected plants in at least one variety.

Other viruses which will also be include in the screen are Arabis mosaic virus, tobacco ringspot virus, tomato ringspot virus, and tobacco rattle virus.

One in about every four locations in 2006 had plants being offered for sale infected with hosta virus x.

Soybean rust appears to have suffered some setback.

Reports in January and February from southern states indicate over wintering Asian soybean rust was reduced by below freezing temperatures. Kudzu which is an alternate and overwintering host for the disease was killed back by cold temperatures thus killing the fungus. Reports in southern Texas indicate dry weather has significantly reduced potential rust inoculum sites.

In other news, soybean rust was recently discovered in Iowa in plant debris from"on farm" storage bins containing the 2006 crop. This discovery does not threaten the 2007 crop but does reaffirm the possibility of the disease to reach Midwestern production. The disease was not observed in the field during the growing season in Iowa.

PLANT PROTECTION AND WEED CONTROL PROGRAM
PO BOX 19282
FORBES FIELD, BLDG 282, STREET I
TOPEKA, KANSAS 66619-2180

Phone: 785-862-2180
Fax: 785-862-2181

http://www.ksda.gov/plant%5Fprotection/

WEB ADDRESS FOR THE PLANT PROTECTION PROGRAM

AUTHOR: JON A. APPEL
PLANT PATHOLOGIST
KANSAS DEPARTMENT OF AGRICULTURE

MANHATTAN, KANSAS
PHONE: 785-537-3155
EMAIL: JAPPEL@KDA.STATE.KS.US

Plant Protection and Weed Control Program

Plant Protection and Weed Control staff work to ensure the health of the state's native and cultivated plants by excluding or controlling destructive pests, diseases and weeds. Staff examine and analyze pest conditions in crop fields, rangelands, greenhouses and nurseries. Action taken to control potential infestations of new pests, whether they are insects, plants diseases or weeds, is beneficial to the economy and the environment.

Our Mission is to:

- Exclude or control harmful insects, plant diseases, and weeds;
- Ensure Kansas plants and plant products entering commerce are free from quarantine pests;
- Provide customers with inspection and certification services.

The Plant Disease Survey in Kansas has been conducted since 1976. The survey addresses disease situations in field crops, native ecosystems, and horticultural trade. The Kansas Department of Agriculture works cooperatively with Kansas State University and Extension programs, Kansas Forest Service, United States Department of Agriculture, and various commodity groups.

Wheat disease survey finds several diseases in the new crop.

Not only has pink snow mold and powdery mildew been observed in wheat but also a number of other diseases. Speckled leaf blotch was reported in some central Kansas wheat . Leaf rust appeared to have over wintered in the state with sightings in Marion and Riley counties (J. Appel and E.DeWolff, KSU). Barley yellow dwarf and high plains virus have reports in central Kansas. BYD strains of PAV and RPV have been confirmed (KDA and KSU). Some fields in south central and central Kansas may have significant levels of BYD as more symptoms appear. Tan spot has also started initial infection from the crop residue.

Farmers should expect a number of diseases to increase with warmer temperatures and rainfall over the next two weeks. Rust diseases in Oklahoma and Texas are increasing and will likely contribute to disease pressure here in late April.

Figure 4. Plants showing purple and yellow tips with infection of BYD. Infected plants were in spots of 1 to 2 feet in size, J. Appel..